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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,998	10/28/2003	Seong Hak Moon	P-0607	3657
34610	7590	04/05/2005	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			LEE, WILSON	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/693,998

Applicant(s)

MOON, SEONG HAK

Examiner

Wilson Lee

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,9-12 and 16 is/are rejected.
- 7) ☒ Claim(s) 3-8 and 13-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **Claim Rejections – 35 U.S.C. 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujii et al. (6,144,350).

Regarding Claim 1, Fujii discloses an aging apparatus of a field emission device provided with a scan driving unit (102, 103) and a panel (1000), the apparatus comprising an aging operation controlling unit (circuit shown in Figure 14) for performing an aging operation (aging of the DC voltage source) (See Col. 17, lines 37-54) by controlling a high voltage (from DC high voltage power supply 1115) of a pulse form applied to an anode electrode (1114) of the panel (1000) and a voltage (voltage from source Vx selected by switching devices) applied to the scan driving unit (102, 103) (See Figure 16, Col. 18, line 62 to Col. 19, line 18).

Regarding Claim 2, Fujii discloses that the aging operation controlling unit (See Figure 14) drives the panel (1000) (See Col. 17, lines 37-54) by applying a high voltage of a pulse form switched in accordance with a direct current high voltage (from DC high voltage power supply 1115) gradually increasing up (gradually increase saturation) to a preset maximum voltage (See Col. 15, lines 33-52) to the anode electrode (1114) and then by applying a power source (Vx) to the scan driving unit (102, 103) (See Figure 16, Col. 18, line 62 to Col. 19, line 18).

Regarding Claim 9, Fujii discloses a data driving unit (2107, or 106) (See Col. 24, line 66 to Col. 25, line 12 or Figure 16) for outputting a timing control signal (Tsync) (See Figures 16, 21B) and a data pulse (DATA) (See Figures 16, 21A).

Regarding Claim 10, Fujii discloses (See Figure 16) that the scan driving unit (103) receives a data signal (DATA) and a clock signal (Tsync) inputted from outside by the timing control signal outputted from the data driving unit (106) and thereby output a scan pulse (Tscan).

Regarding Claim 11, Fujii discloses (See Figure 16) that the panel (1000) receives a data pulse (DATA) outputted from the data driving unit (106) and a scan pulse (Tscan) outputted from the scan driving unit (102, 103) and thereby displays data.

Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by Hernqvist (4,515,569).

Regarding Claim 12, Hernqvist discloses an aging method of a field emission device (See Col. 6, lines 3-10) provided with a scan driving unit (electron gun) and a panel (23), the method comprising:

a pre-aging (See Col. 4, lines 51-65) for switching a direct current high voltage (train of pulses of positive voltage) applied to an anode electrode (35) of the panel and thereby outputting as an alternating current high voltage of a pulse form (See Col. 4, lines 58-61), and

a main aging (low voltage aging) for controlling a voltage applied to the scan driving unit (electron gun).

### **Claim Rejections – 35 U.S.C. 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hernqvist (4,515,569) in view of Robinson et al. (6,034,810).

Regarding Claim 16, as discussed above, Hernqvist essentially discloses the claimed invention but does not explicitly disclose that contaminants generated at the time of the pre-aging and the main aging are exhausted by a vacuum pump at a vacuum state. However, Robinson discloses a pump being used in a vacuum chamber to pump out contaminants (See Col. 7, lines 13-24, Col. 4, lines 12-25). It would have been obvious to one of ordinary skill in the art to use Robinson's teaching in Hernqvist in order to pump out contaminants over time.

### **Allowable subject matter**

Claims 3-8, 13-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hamamoto (6,259,422) discloses a method for producing image-forming apparatus. Miyazaki et al. (5,667,705) discloses discharge chamber.

### **Correspondence**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Wilson Lee whose telephone number is (571) 272-1824.

Papers related to Technology Center 2800 applications may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The official fax number is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Wilson Lee", written over a horizontal line.

Wilson Lee  
Primary Examiner  
U.S. Patent & Trademark Office

4/4/05